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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,221	07/30/2003	Charles D. Spellman	76589	3299
23523	7590	11/04/2004	EXAMINER	
NAVAL UNDERSEA WARFARE CENTER DIVISION NEWPORT 1176 HOWELL STREET, CODE 000C BLDG 112T NEWPORT, RI 02841			MAYO III, WILLIAM H	
			ART UNIT	PAPER NUMBER
			2831	
DATE MAILED: 11/04/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/631,221

Applicant(s)

SPELLMAN ET AL.

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 5-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 5-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 10, 2004.

### *Priority*

2. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. The status of nonprovisional parent application(s) (***whether patented or abandoned***) should also be included. If a parent application has become a patent, the expression "now Patent No. \_\_\_\_" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.

If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency

of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A priority claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed claim for priority under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

***Information Disclosure Statement***

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1-4 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruda et al (Pat Num 4,510,588, herein referred to as Kruda) in view of Krevor (Pat Num 4,685,090). Kruda discloses a buoyant cable assembly (Figs 1-2) for seismic exploration of the substrata beneath bodies of water and more particularly, to a marine seismic cable for sensing reflected seismic waves for the substrata as a seismic streamer (Col 1, lines 5-8). Specifically, with respect to claim 1, Kruda discloses a cable assembly (Fig 2) comprising a longitudinally extending core (12) that includes as its outer layer at least one segment (22, 24, 26) having an annularly cross-sectional shape (Fig 2) and being a plastic based material (i.e. soft urethane, Col 2, lines 50-54), which may be molded and a covering (40) formed of a tubing (i.e. polyurethane plastic) to protect the core structure (12, Col 3, lines 11-13). With respect to claim 2, Kruda discloses that the buoyant cable section (Fig 2) may be utilized in a marine environment (Col 1, lines 5-8) wherein the annularly cross sectional segment (22) is made of a plastic based material (i.e. soft urethane, Col 2, lines 50-54), which is loaded with buoyancy providing particulates homogeneously distributed therein (Col 2, lines 50-54). With respect to claim 3, Kruda discloses that the plastic based material (urethane) is loaded with buoyancy providing particulate comprises a thermosetting polymer (i.e. urethane), which is inherently curable at room temperature wherein the particulates has a range of 15-20 glass microballons (Col 2, lines 50-54). With respect to claim 4, Kruda discloses that the plastic based material is polyurethane (i.e. soft urethane, Col 2, lines 50-54), which may be molded and a covering (40) is made of a polyolefin and fluoropolymer material (i.e. polyurethane plastic) to protect the core structure (12, Col

3, lines 11-13). With respect to claim 12, Kruda discloses a cable section assembly (Fig 2) having a outer diameter and whose length is limited by the size of the practical clamshell overmolding apparatus (26) comprising a core structure (12), a casing (40) for adding stiffness to the cable (10) and preventing damage to the core structure (12) during handling and deployment (Col 3, lines 11-13), wherein the casing (40) surrounds the core structure (12) and is made of a thermoplastic material (i.e. polyurethane, Col 10-13), wherein the core structure (12) has an outer surface and is formed of at least one longitudinally extending member (22, 24, 26) made of polyurethane based material (i.e. 22 is made of urethane, Col 2, lines 50-54). With respect to claim 13, Kruda discloses that the covering (40) is made of a polyolefin and fluoropolymer material (i.e. polyurethane plastic) to protect the core structure (12, Col 3, lines 11-13). With respect to claim 15, Kruda discloses that the cable assembly (Fig 2) has a thickness). With respect to claim 16, Kruda discloses that the outer surface of the core (12) and the covering (40) each have concentric shapes (Fig 2). With respect to claim 18, Kruda discloses that the core structure (12) includes a central flexible conduit (22, 24, 26) and at least one linearly extending energy transmission medium (16), which are electrical conductors (Col 2, lines 45-46).

However, Kruda doesn't necessarily disclose the covering being heat shrinkable tubing (claims 1 & 12), nor the particulates of the plastic based material being disposed in the range of 15-20% by weight (claim 3), nor the cable assembly having an layer of adhesive disposed between the core and the casing (claim 4), nor cable section having a diameter in the range of 0.5-0.75 inches nor the adhesive layer being a layer of heat

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meltable tape spirally wrapped around the core structure in an overlapping successive wrap (claim 12), nor the covering layer having a thickness of  $1/16^{\text{th}}$  of an inch (claim 15), nor the tape being of the type which is not tacky on its exterior surface (claim 17).

Krevor teaches a buoyant cable assembly (Figs 1-5) for seismic exploration of the substrata beneath bodies of water and more particularly, such as a seismic streamer (Col 1, lines 5-23), wherein the cable assembly has an outer covering which exhibits good physical properties such as high modulus, solvent, flexibility, ultraviolet stability, good weatherability, scrape resistance, good surface finish, creep resistance, water resistance, and acoustic damping characteristics (Col 3, lines 50-57).

Specifically, with respect to claims 1 & 12, Krevor teaches a cable assembly (Fig 2) comprising a longitudinally extending core (22, 20, 12) that includes as its outer layer at least one segment (12) having an annularly cross-sectional shape (Fig 3) and being a plastic based material (i.e. polymeric material, Cols 3-4, lines 1-20 & 1-8 respectively), which may be molded and a covering (14 & 16) formed of a heat shrinkable tubing (Col 5, lines 20-26) to protect the core structure (20 & 22, Col 5, lines 41-49). With respect to claim 4, Krevor teaches that the cable assembly has a layer of adhesive (not shown) disposed between the core (22, 20, 12) and the heat shrinkable tube (14, 16, Col 5, lines 20-36). With respect to claim 12, Krevor teaches that cable assembly has an outer diameter of 1-4 inches (Col 5, lines 63-66), wherein the adhesive layer may be a layer of heat meltable tape spirally wrapped around the core structure in an overlapping successive wrap (Col 5, lines 31-36 & 50-54 respectively). With respect to claim 15, Krevor teaches that the covering layer (14 & 16), may have a thickness of 0.80-0.400



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inches (Col 5, lines 63-66). With respect to claim 17, Krevor teaches that the tape layer may be of the type, which is not tacky on its exterior surface (i.e. tape is not tacky until it is heated, Col 5, lines 33-36).

With respect to claims 1, 3-4, 12, and 17, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable assembly of Kruda to comprise outer covering configuration as taught by Krevor because Krevor teaches that such an outer covering configuration provides the cable assembly which exhibits good physical properties such as high modulus, solvent, flexibility, ultraviolet stability, good weatherability, scrape resistance, good surface finish, creep resistance, water resistance, and acoustic damping characteristics (Col 3, lines 50-57).

With respect to claim 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the plastic based material of modified Kruda to comprise the particulates of the plastic based material being disposed in the range of 15-20% by weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Hillenbrand et al (Pat Num 5,396,859), Schettimo (Pat Num 5,417,006), Jacobson (Pat Num 4,659,253), Phillips (Pat Num 4,463,358),

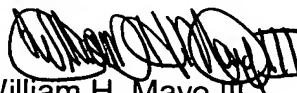
Ramotowski et al (Pat Num 5,606,329), Norris (Pat Num 6,154,420), Bittleston (Pat Num 5,745,436), King (Pat Num 3,480,907), all of which disclose cable assemblies.

***Communication***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
William H. Mayo III  
Primary Examiner  
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WHM III

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October 29, 2004